

1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$4 + 8x > 11x \text{ or } 5 + 3x < 5x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-2.25, 3.75]$ and $b \in [0, 5.25]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7.5, -2.25]$ and $b \in [-6.75, 0.75]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-0.75, 3.75]$ and $b \in [2.25, 3.75]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-4.5, -1.5]$ and $b \in [-5.25, 2.25]$
 - E. $(-\infty, \infty)$
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2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-6}{9} - \frac{7}{7}x \leq \frac{-5}{2}x + \frac{8}{8}$$

- A. $(-\infty, a]$, where $a \in [0.6, 1.65]$
 - B. $(-\infty, a]$, where $a \in [-2.48, -0.67]$
 - C. $[a, \infty)$, where $a \in [0, 2.25]$
 - D. $[a, \infty)$, where $a \in [-2.25, 0]$
 - E. None of the above.
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3. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No more than 2 units from the number 3.

- A. $[1, 5]$
- B. $(-\infty, 1] \cup [5, \infty)$
- C. $(1, 5)$
- D. $(-\infty, 1) \cup (5, \infty)$

E. None of the above

4. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5 - 6x \leq \frac{-20x - 9}{4} < 8 - 6x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [1.5, 4.5]$ and $b \in [-12, -9]$
B. $[a, b)$, where $a \in [1.5, 3.75]$ and $b \in [-12, -9]$
C. $(-\infty, a) \cup [b, \infty)$, where $a \in [1.5, 6]$ and $b \in [-11.25, -6]$
D. $(a, b]$, where $a \in [2.25, 7.5]$ and $b \in [-12.75, -6.75]$
E. None of the above.
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5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-8 + 4x > 6x \text{ or } -3 + 3x < 4x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [2.25, 7.5]$ and $b \in [3.75, 4.5]$
B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-6, -1.5]$ and $b \in [-3.75, -2.25]$
C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-10.5, -3]$ and $b \in [-6, -2.25]$
D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-1.5, 3.75]$ and $b \in [1.5, 6]$
E. $(-\infty, \infty)$
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6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-10x - 6 \leq -9x + 5$$

- A. $(-\infty, a]$, where $a \in [-13, -8]$
B. $[a, \infty)$, where $a \in [-11, -4]$

- C. $[a, \infty)$, where $a \in [10, 14]$
 - D. $(-\infty, a]$, where $a \in [9, 12]$
 - E. None of the above.
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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-6x - 4 \leq 3x + 10$$

- A. $[a, \infty)$, where $a \in [0.56, 6.56]$
 - B. $(-\infty, a]$, where $a \in [-4.56, 0.44]$
 - C. $[a, \infty)$, where $a \in [-1.56, -0.56]$
 - D. $(-\infty, a]$, where $a \in [-0.44, 8.56]$
 - E. None of the above.
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8. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-7 - 9x \leq \frac{-15x + 9}{3} < 7 - 6x$$

- A. $(-\infty, a] \cup (b, \infty)$, where $a \in [2.25, 6]$ and $b \in [-6, -2.25]$
 - B. $[a, b)$, where $a \in [-1.5, 8.25]$ and $b \in [-4.5, -1.5]$
 - C. $(a, b]$, where $a \in [0.75, 5.25]$ and $b \in [-7.5, -2.25]$
 - D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-2.25, 3]$ and $b \in [-5.25, -3]$
 - E. None of the above.
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9. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

Less than 4 units from the number -10 .

- A. $(-\infty, -14] \cup [-6, \infty)$
 - B. $(-\infty, -14) \cup (-6, \infty)$
 - C. $[-14, -6]$
 - D. $(-14, -6)$
 - E. None of the above
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10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-9}{2} - \frac{5}{8}x \geq \frac{6}{4}x + \frac{10}{6}$$

- A. $(-\infty, a]$, where $a \in [-6.75, -2.25]$
 - B. $(-\infty, a]$, where $a \in [2.25, 6.75]$
 - C. $[a, \infty)$, where $a \in [-6, -0.75]$
 - D. $[a, \infty)$, where $a \in [-0.75, 6.75]$
 - E. None of the above.
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